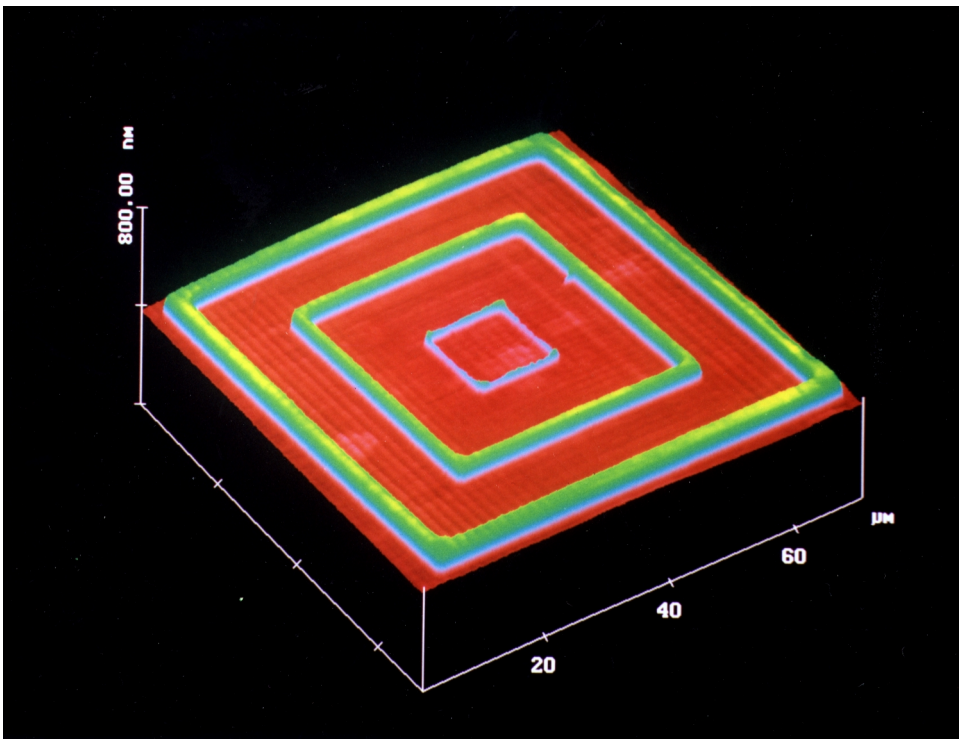
REPOSITIONABLE SUBSTRATE FOR SCANNING PROBE MICROSCOPES



Relocation of micron-size sample regions in a scanning probe microscope (SPM) can often be a difficult, if not impossible, task. The repositionable substrate provides a simple SPM readable “road map” that can be used repeatably to find micron-sized features of a sample with virtually any SPM in minutes.

- Permits relocation of any surface feature within the pattern with submicron resolution.
- Use on any SPM, including STM, AFM, SNOM, STOM, etc., as well as conventional optical and electron microscopes.
- Pattern can be etched, raised, opaque, or transparent.
- Substrate can be conducting, insulating, opaque, or transparent.
- Can be fabricated with conventional lithographic techniques.
- Lines may encode height and width for real time calibration.
- Calibrated lines can give tip shape analysis at any time.
- Can be made resistant to acid/base and other harsh solvents.
- Can be made sterile and autoclavable.

This substrate has found particular use in SPM patterning experiments where patterns were produced with an STM and then later characterized with an AFM. It may also be used to follow temporal or chemical modification of a sample feature without tying up the SPM for long periods of time or exposing the instrument itself to harsh chemical treatment.

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